



**Proposal # 13.04**

Design and Facilitation of an

**Aviation Air Cargo Supply Chain Alliance**

to advance

**CISCO Supply Chain Capabilities**

and position CISCO for the

**Aviation Industry Transition to Networked Operations**

Offered by

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## Executive Summary

### Opportunity

The confluence of three strategic trends present multiple opportunities for CISCO to capitalize on the company's lead in IP enabled systems through a multi-party alliance:

- US transportation policy to deploy a networked operations air transportation system,
- Major airline's (United, FedEx, etc.) need to deploy new business architectures
- Technology advances over the past 7 years with cloud, mobile, and mesh network technologies

The purpose of the industry alliance is bring together Boeing, FedEx, Cisco, GE, Honeywell Aviation, FAA, Rockwell Collins, and other suppliers into a multi-party alliance to create/deploy an IP mesh network that connects commercial airlines flying with a destination in or out of the United States. Eventually if successful the alliance would expand internationally.

The Cisco purpose for involvement in the alliance is to 1) gain supply chain efficiencies with greater visibility to in-transit air cargo reducing inventory levels and 2) sell additional router/switching products along with ground control network systems that enable the IP network in the sky.

IP Networks link 1) aircraft, 2) airline operations centers and 3) FAA Air Traffic Control allowing the aircraft and subsystems within aircraft to:

- Communicate the status/health of subsystems within plane for maintenance and flight operations
- Allow Federal Air Marshalls (FAMs) to communicate with federal authorities
- Provide passengers for communication and entertainment
- Provide pilots with real-time, data enriched communication with the FAA's Air Traffic Control (ATC) and their respective airline operations centers
- Support Supply Chain teams to better manage inventory and production schedules.

What makes this alliance unique is rather than just an engineering/sales alliance, Cisco's supply chain organization will join the alliance to bring together the supply chain functions from GE, Honeywell, FedEx etc. so collectively we better integrate our value chain leveraging the data from this IP aviation network to make each companies' supply chain operations more efficient. We expect the benefits to include:

- Reduce Cisco supply chain / NMS expenses
- Demonstrate the "Internet of Things" via practical application within the Logistics Industry
- Evaluate the value to CISCO of using the "innovation alliance" model within aviation industry to potentially address other industry challenges such as sustainability, factory of the future, etc.

### Background: The Need, CISCO Position, StarNet LLC

The US aviation sector is transitioning from a command-and-control system to networked operations guided by a public/private transformation plan called the Next

Generation Air Transportation System (NextGen).<sup>1</sup> The plan calls for a coordinated change in sensing, data collection, communication, decision support systems and collaborative air traffic management. This will change the airlines' business architectures, and permit new applications such as fuel efficiency and flight optimization that generate savings and reduce carbon emissions.

CISCO currently sells an array of products and services to the global aviation industry and is also a major consumer of air cargo capacity through its Supply Chain Operations Group. A supply chain Director has questioned whether CISCO can develop and deploy a networked operations system working with aviation stakeholders that will both improve CISCO's supply chain efficiency and position the company to capitalize on the aviation sector transformation.

StarNet LLC provides consulting and management services to design and administer collaborative technology development agreements known as "innovation alliances". StarNet specializes in agreements that incorporate government organizations for their ability to influence legacy system architectures. StarNet has designed and supported multiple aviation alliances that incorporated FAA certification of new products, including elements of networked operations. The CISCO Director requested StarNet submit a proposal to form an aviation (air cargo focused) innovation alliance to benefit the Supply Chain Operations Group and position the firm for industry changes.

#### **Objective: Air Cargo Supply Chain Alliance**

There are two objectives of StarNet's proposed assistance to CISCO:

- Primary: Aviation Supply Chain Alliance- Build an aviation networked operations enterprise architecture targeted at air cargo operators to support CISCO's end-to-end supply chain management.
- Secondary: Aviation Industry Business Architecture Alliance- Leverage the air cargo supply chain initiative to develop an aviation industry-wide business architecture, primarily targeted at airlines to support operational improvements

#### **Approach: Innovation Alliance Model**

The innovation alliance model is a hybrid industry consortium and private/public partnership. The model is different from industry consortia in two ways: first, the participation of government organizations for the purpose of influencing national architectures (i.e. legacy systems) and second, the invocation of a legal model that maximizes R&D tax credits, government funding, provides anti-trust protection and attracts investment for small firms (state EDAs, AC, VC, minority investment and acquisition). This scope encompasses the "innovation ecosystem" necessary for technology development with multiple paths-to-market. Alliance members are organized into three categories: 1) Principal members seeking technology solutions for internal improvement and market development, 2) Associate members as suppliers to Principal members and 3) Observing members (Government) as technical influencers of legacy systems. The structure would include working teams on Supply Chain use of information and Engineering/Sales GTM solution development (hardware+).

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<sup>1</sup> <http://www.faa.gov/nextgen/>

### **Method: Six-Phases, Go No-Go Decision Point, Scalable**

StarNet uses a six-phase process for the lifecycle of an innovation alliance. The steps are executed on a sequential basis and include go/no-go decision points.

Phase 1- Assess CISCO Needs, Develop Alliance Plan(s)

Phase 2-Recruit Partners

Phase 3-Structure Technical Work Plan

Phase 4-Negotiate and Sign Alliance Agreement

Phase 5-Operate Alliance

Phase 6-Transition/Expand Alliance

CISCO will be the sole client during Phase 1 and make a go no-decision based on the assessment (value & feasibility) and alliance plan. Additional members will be recruited, starting with UPS, Federal Express, Boeing, Honeywell Aerospace and Rockwell Collins. StarNet will facilitate the organizations' decision whether to proceed with next the phases of alliance formation. Government members, including the Federal Aviation Administration (FAA) and NASA's air space operations group will be recruited last.

### **Alliance Deliverables**

StarNet will facilitate the alliance to joint technical work plan that generates, at a minimum, agreement on 1) concepts of operation, 2) operational architectures and 3) multiple operational implementations of the architectures for different aviation sectors. The architectures will act as "paths-to-market" for different scale of aviation sectors.

### **StarNet Deliverables and Role**

StarNet will provide written and oral reports at each Phase of alliance formation and operation. StarNet will act as the alliance business and administrative manager.

### **Costs**

Phase 1 costs are estimated at \$16,500. Costs for Phase 2 through operational launch at Phase 5 are estimated to be \$13,000 to \$3,250 per organization, depending on membership level. Ongoing alliance administration costs are estimated to run from \$180K to \$250K per annum, subject to approval by an alliance governing board.

### **Terms and Conditions**

StarNet will provide Phase 1 services under CISCO's standard commercial service vendor contract terms, subject to mutual agreement. StarNet will provide Phase 2 through 6 services to alliance members under StarNet's standard multi-client management services contract terms, subject to multi-party mutual agreement.

## A. BACKGROUND

### A. 1 Background: CISCO Strategy and Markets in Transition

CISCO Systems, Inc. is a publicly traded (insert symbol), private corporation that designs, manufactures and sells Internet Protocol (IP) based networking products related to the communications and information technology (IT) industry. CISCO also provides services associated with these products to support installation at enterprise businesses, public institutions, telecommunications companies, commercial firms and personal residences.

The company conducts business on a global scale and manages by geographic region. CISCO's organization includes functions, such as research and development, manufacturing and supply chain management that coordinate through vertical reporting and horizontal working groups. The company's customer base needs are driven by a combination of size, number and types of technology systems, geographic location and necessary business applications.

CISCO realigned its organization in 2012 to accommodate the demands of increasing numbers of users, network applications and new network operators. The company has articulated five foundational priorities that permit the company to pursue a strategy that capitalizes on market transitions.<sup>2</sup>

### A. 2 CISCO's Aviation Sector Opportunity

The US aviation sector is transitioning from a command-and-control system to networked operations guided by a public/private transformation plan called the Next Generation Air Transportation System (NextGen).<sup>3</sup> The plan calls for a coordinated change in sensing, data collection, communication, decision support systems and collaborative air traffic management. The US Federal Aviation Administration (FAA) and airlines will be required to independently equip and adapt their business structures to this new system. This will change the airlines' business architectures, and permit new applications such as fuel efficiency and flight optimization that generate savings and reduce carbon emissions.

CISCO currently sells an array of products and services to the global aviation industry. The industry is composed of air fleet operators (airlines, air cargo firms), airport operators (e.g. San Francisco International) and airspace systems operators (e.g. US DOT/Federal Aviation Administration and NAV Canada). CISCO's IBSG Transportation promotes the company's collective capabilities to the industry<sup>4</sup> while the company's Supply Chain Operations is a major consumer of air cargo services for both sourcing and delivery of product.

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<sup>2</sup> CISCO Annual 10K Disclosure, Strategy and Focus Areas, Page 2

<sup>3</sup> <http://www.faa.gov/nextgen/>

<sup>4</sup> Airline of the Future: Smart Mobility Strategies that Will Transform the Industry. Howard Lock, Dr. Amir Gattah, Shaun Kirby, Ph.D., CISCO ISBG Transportation Group POV White Paper, July 2010

A Director of CISCO's Supply Chain Operations group, Mr. Reid Bierly, sees a potential for CISCO to use its position as a major air cargo capacity buyer to build aviation networked operations systems to both advance the company's air cargo supply chain effectiveness and position CISCO to capitalize on the aviation industry transition. Mr. Bierly approached Paul A. Masson of StarNet, LLC, an innovation alliance manager, to discuss whether specific opportunities could be identified. StarNet, LLC has designed and supported the implementation of aviation industry innovation alliances that transformed vehicle and operational architectures for small aircraft and helicopters.

(See Appendix A on Aviation Sector Innovation Alliance Model).

Mr. Masson contacted former clients at Boeing, United and XCellar to evaluate whether Mr. Bierly's concept was consistent with investment plans of aviation system operators. The preliminary inquiry revealed that planned NextGen investments will be limited to air space operational management, and will not include architectures necessary to support aviation fleet operator (airlines and air cargo) ERP's. This creates a need for a networked architecture to support airlines and air cargo firms' internal operational efficiency. The savings potential for the airlines is huge: their industry association, IATA, has calculated that a 3% collective savings in trip efficiency will generate enough fuel savings to return all airlines to profitability last seen in the 1980's. This need could be met by developing a small-scale aviation networked operations solution for air cargo operators, and expanding that solution to the remaining worldwide market. The solution would require multiple stakeholders, including the Federal Aviation Administration (FAA). Based on that assessment, Mr. Bierly asked StarNet to submit a proposal to form an alliance of aviation stakeholders, starting with an air cargo focus and expanding to the broader aviation industry. StarNet is pleased to present this proposal in response.

## **B. OBJECTIVE AND SCOPE**

### **B.1 Objective**

The primary objective of StarNet's assistance to design and manage an alliance of aviation related firms to provide CISCO with an air cargo networked operations information system. Achieving this objective will provide CISCO with an improvement in inventory management and Customer Value Chain Management. For purposes of this proposal, we will use the phrase "air cargo, supply chain alliance" as the outcome of our assistance. The secondary objective is to position CISCO as a leader to shape "networked operations solutions" for the aviation industry. Achieving this objective will provide CISCO with positioning to sell influence aviation business architectures and sell solutions to air fleet operators.

The reports and process generated to launch this alliance will expose CISCO personnel to an example of the "innovation alliance" model. This will allow CISCO managers to evaluate the efficacy of the model for use in other markets.



## **B. 2 Scope**

StarNet's scope of services is defined by each Phase of alliance formation. (See C.1 Below-Method) StarNet's Phase 1 assistance will be limited to gathering sufficient information to determine whether the proposed concept (air cargo supply chain alliance) is feasible, and prepare a plan for its launch and operation. StarNet's Phase 2 and Phase 3 assistance will be limited to recruiting and securing conditional commitments from additional members and developing a joint work plan. StarNet's assistance for Phases 4 through 6 will be limited to the role as alliance business and operations management, including individual expertise in alliance management, administration, intellectual property, group processes (face-to-face and virtual) and technology commercialization. Other topics that may be raised but are outside the scope of StarNet's intended assistance include aviation sector market studies, analyses of the combined laws underlying the innovation alliance model and sourcing of specific Federal or state aviation funding.

## **C. METHOD AND APPROACH**

### **C. 1 Method**

StarNet uses a six-phase process for the lifecycle of an innovation alliance. The steps are executed on a sequential basis and include go/no-go decisions to guide the alliance formation. This approach is based on third premises: first, the phased approach saves project resources and creates clear, management decision options before proceeding to a next Phase; and second, it provides a gradual "buy-in" process among stakeholders without requiring an up-front financial or legal commitment; third, it helps to translate the group "buy-in" into a shared vision and set of objectives.

#### **Method: Phases**

StarNet's six phases in the innovation alliance lifecycle are:

Phase 1- Assessment and Plan: Assess the anchor sponsor needs (value) and conditions (feasibility) to generate the alliance plan

Phase 2- Partner: Identify, qualify and engage all stakeholders as partners, including users of the alliance outputs

Phase 3- Structure: Identify alliance structural and business topics for research; prepare a technical work plan; create a draft organizational & relationship structure; secure preliminary agreement on alliance structural issues based on technical work plan

Phase 4- Negotiate, Draft, Sign: Convert structural issue agreements into contractual language; verify contractual language against statutory authority for relative membership authorities (i.e. Federal and State); identify and clear any regulatory or implementation requirements; secure external legal counsel to draft agreement; sign agreement

Phase 5- Operate: Design and apply StarNet's existing management systems and operations structures to support the alliance functions; modify design based on the user input, management team, partnership administration, joint public/private work teams, facilities sharing, etc.

Phase 6- Transition: Identify future growth needs; develop scenarios for transitions to meet future needs; prepare business plan updates and agreement changes to meet future needs to assure long-term operation.

Method: Go/No-Go Decisions

The written and oral deliverables at each phase permit managers to make informed go no-go decisions. These decisions include:

- Assess and Plan- Does the plan meet our business unit and strategic objectives? Is the plan feasible given our corporate partnering policy and procedures? Do we believe the targeted partners have compatible objectives, cultures and practices?
- Recruit Partners- Who are the stakeholders in a networked aviation communication solution? How will they be incorporated into the alliance? What role will Government organizations play in influencing legacy practices, such as software certification?
- Structure- Will is the agreed upon technical work plan produce the outputs needed to generate value? Is the alliance structure implementable? Can we translate the technical work plan and structure to joint decisions that will guide the drafting of the legal agreement?
- Negotiate- Is the business agreement acceptable? Does it invoke statutory authority that maximizes R&D tax credits, government funding and small business investment?
- Operate- Is the alliance business and operations plan consistent with the membership needs?
- Transition- Are there feasible transition scenarios?

## **C. 2 Approach**

StarNet will work with CISCO exclusively in Phase 1 to prepare the assessment (value and feasibility), the alliance plan and solicit interest from additional organizations. StarNet will work with and charge costs exclusively to CISCO during this phase. StarNet will work with and charge costs to the collective alliance membership for the next phases. (See Section G Estimated Cost Schedule)

## **D. PHASES AND TASKS**

### Phase #1 Assessment and Plan (CISCO Only)

StarNet will form a joint-project team with CISCO personnel to implement the task plan outlined below. The joint-team will permit StarNet to transfer knowledge of the innovation alliance model.

#### Task 1.1 Kickoff Meeting

Task 1.1.1 Provide background briefing on StarNet's project plan, innovation alliance model

Task 1.1.2 Conduct preliminary business planning meeting to define CISCO objectives, value proposition and "strawman" alliance features such as target members, legal structure, organizational structure and technical work scope

Task 1.2 Gather information on aviation innovation alliance precedents relative to objectives and decisions generated from Task 1.1.2.

Task 1.3 Develop value and feasibility criteria reflecting the needs identified from 1.1.2 and the precedents collected in 1.2

Task 1.4 Undertake secondary-research to prepare interim value and feasibility findings and conclusions

Task 1.5 Undertake primary-research to verify and modify the interim findings and conclusions

Task 1.6 Compile recommendations on most feasible alliance structure to achieve the established objectives from Task 1.2

Task 1.7 Prepare preliminary air cargo supply chain alliance business plan reflecting outcomes of Tasks 1.4 through 1.6

Task 1.8 Distribute Executive Summary of alliance business plan, and solicit letters of intent from anchor members

Task 1.9 Facilitate CISCO go no-go decision meeting based on results of Task 1.8

**Note:** The following task descriptions for Phases 2 through 6 are an example of innovation alliance design and implementation. Specific task plans and costs for each phase will be developed depending on the number of organizations that express conditional interest (Letter of Intent).

Phase #2 and #3- Link-Recruit Partners, Structure Work Plans (Collective Members)

Phase 2 Recruit-To identify and recruit additional commercial aviation industry partners; to identify and recruit Federal (FAA & NASA) and relevant state EDA (Kansas KTEC) partners; to identify and recruit additional software and services partners; to present information about structuring the partnership to meet all stakeholder needs.

Phase 3- Structure-To communicate among and between potential members to develop a preliminary technical work plan; to communicate among and between members to develop a go-to-market (technical uptake) plan with FAA acceptance; to identify business requiring resolution to implement the plans; to identify and apply the appropriate organizational development (OD) methods (e.g. interpersonal relationship, and group process) as necessary to bring about full disclosure and resolution of issues.

Phase #4- Negotiate, Draft and Sign Business Agreement- To utilize agreements from the structure stage to prepare a decision guide prior to negotiation; to provide a description of the optional statutory authorities available to maximize member value; to retain independent counsel to prepare a draft agreement; to facilitate a coordinated process including legal representatives among the members; to facilitate the agreement signing.

Phase #5- Prepare Operations and Launch Alliance Work- To provide the structures necessary to support the various ongoing management and operations of the alliance; to utilize the negotiated agreement as the basis for preparation of an operations guide; to design a member participation guide based on the operations guide; to provide specialists in intellectual property, financial management & audit, and dispute resolution as necessary; to launch the alliance technical work.

Phase #6 Transition/Expand Alliance to Aviation Networked Operations Work- To develop and implement membership expansion plan; to facilitate an alliance expansion strategy and implementation plan to encompass all aviation networked operations; to update the business agreement and expand the operational structure; to launch expanded technical work

## **E. PERFORMANCE PERIOD**

Performance periods by phase are estimated below. Performance ranges account for holidays, time for internal consultation and key personnel vacations. The collective performance estimate is forty-six weeks (46 weeks) or approximately eleven months from initiation to alliance launch.

- Phase 1- Assess and Plan- Twelve weeks
- Phase 2 and 3- Recruit and Structure- Fourteen weeks
- Phase 4- Negotiate Business Agreement- Twelve Weeks
- Phase 5- Design and Launch Operations- Eight Weeks
- Phase 6- Transition/Expansion- Dependent on alliance governing board decision

## F. DELIVERABLES

Reports to CISCO for Phase 1 will be provided in PowerPoint and/or text format as agreed upon in the kickoff meeting.

Progress reports to the collective alliance membership will be provided in text and PowerPoint form on a regular basis. Progress reporting will be posted and available on virtual project management platforms, as specified in the alliance business plan.

Reports	Deliverable	Form	Schedule
<b>Phase 1- Assessment and Plan- CISCO Only</b>			
1.	Status reports	Verbal and email report	Weeks five, eight and twelve
2.	Kickoff Meeting Report	Meeting minutes	Week two of twelve
3.	Interim Report	PowerPoint report	Week eight of twelve
4.	Assessment and Plan Executive Summary	Text report with PowerPoint briefing	Week twelve

1.	Status reports	Verbal and email report	Weeks five, eight and twelve
2.	Kickoff Meeting Report	Meeting minutes	Week two of twelve
3.	Interim Report	PowerPoint report	Week eight of twelve
4.	Assessment and Plan Executive Summary	Text report with PowerPoint briefing	Week twelve

### Phases 2 and 3- Recruit and Structure- Alliance Membership

1.	Status reports	Verbal and email report	Last business day of each month
2.	Stakeholder Analysis & Member Recruitment	One PowerPoint Brief w/ Text Recruitment Plan	Week six of fourteen
3.	Structure for Joint Work	One PowerPoint Brief w/Text Joint Work Plan	Week fourteen of fourteen

### Phase 4 Negotiate Business Agreement

1.	Status Reports	Verbal and email report	Last business day of each month
2.	Business Agreement Outline	One PowerPoint Report w/Text Agreement Outline	Week twelve of twelve

### Phase 5 Design and Launch Operations

1.	Status Reports	Verbal and text status report	Last business day of each month
2.	Operational Design	One PowerPoint Report w/Text Operational Plan	Week eight of eight
3	Operational Implementation Launch	Verbal and PowerPoint Status	Ongoing

### Phase 6 Transition

1.	Expansion Plan and Implementation	Verbal and PowerPoint Status Reports	Ongoing
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## G. STARNET PROFESSIONAL STAFFING

StarNet will create two teams drawn from seven individuals that have participated in StarNet projects and cross training. The team for Phase 1 is composed of the project manager, specialist in alliance design and technical personnel familiar with aviation. The second team for Phases 2 through 6 will add individuals with skills in virtual management, aviation networked operations, contracts & accounting, intellectual property and organizational design. (See Appendix C for Professional Bios)

### Phase 1

- Mr. Paul A. Masson (StarNet, LLC)- Innovation alliance design
- Mr. Keith Gale (StarNet/Gale Consulting)- Aviation industry

### Phase 2-6 Additional personnel

- Ms. Sue Lebeck (StarNet/SVIA)- Virtual management
- Mr. Ralph Yost (Anchor Aviation)- Aviation networked operations expertise
- Mr. William Lennett (Government Contract Assoc)- Contracts & accounting
- Ms. Josette Ferrer (Clairent Advisors)- IP allocation and valuation
- Mr. Barry Grossman (HSOD, Inc.)- Organizational design

## H. CISCO TEAMING

StarNet's completion of tasks and deliverables will require access to three CISCO personnel over the projected period of performance for Phases 1 and 2.

### Phase 1

- 1 Supply Chain Manager- Director Level- Estimated 3 hours a week on average
- 1 IBSG Transportation Group Liaison- Estimated 1 hour a week on average
- 1 Air Cargo Contracting Liaison- Estimated 2 hours a week on average

### Phases 2-6

StarNet will work with the collective alliance governing board and technical personnel to complete tasks and deliverables for Phases 2 through 6. StarNet estimates that CISCO's personnel commitments during these phases will include:

- 1 Senior Manager- Representative to the alliance governing board
- 1 Supply Chain Manager- Representative for Supply Chain Operations Group users
- 1 IBSG Transportation Group Liaison- Representative for vertical market
- 1 Legal Group Liaison- Representative for business negotiations

## I. COSTS

### Phase 1: Assessment and Plan- CISCO Only

Cost estimates vary by scope of potential CISCO air cargo operator-partners and downstream development partners, level of CISCO personnel available for joint-teamwork, and timeliness of information provided for analysis. The estimated cost for Phase 1 work is \$16,500.

Performance Period	Deliverables	Payment Amount
Day 1	Contract Signing	30% = \$ 4665.00
Eight weeks- Month 2	Interim Report	30% = \$ 4665.00
Twelve weeks- Month 3	Status Reports, Interim Report, Alliance Plan	40% = \$ 7170.00
<b>Total Cost</b>		<b>\$ 16,500.00</b>

### Phases 2 through 5- Alliance Members

The following cost estimates for Phases 2 through 5 are based on an estimated nine (9) alliance members. More specific cost estimates for each phase will be developed based on the Phase 1 results.

#### Phase 2 and Phase 3 Match and Structure

Performance Period	Deliverables		Cost
Fourteen Weeks	Stakeholder Analysis, Members Recruitment, Joint Work Structure		Est. \$ 26,500
Member Level	Role/Rights	# Members	Charges
Principal Members	Majority of Board, Receives All Reports	3	\$6,000
Associate Members	Minority of Board, Receives All Reports	3	\$3,000
Observing Members	Receives Joint Work Structure Reports	3	\$1,500

#### Phase 4 Business Agreement – (Excludes outside legal expenses)

Performance Period	Deliverables		Cost
Twelve Weeks	Business Agreement Outline		Est. \$ 19,000
Member Level	Role/Rights	# Members	Charges/Dues
Principal Members	Majority of Board, Sets First Business Terms	3	\$4,000
Associate Members	Minority of Board, Negotiates Terms	3	\$2,000
Observing Members	Negotiates Terms	3	\$1,000



**Phase 5.A Operational Design Only**

The operational design specifies the alliance business and technical work implementation. The design is customized to the scope of technical work plan and desired management & administrative services offered to the collective membership. Principal members acting as a governing Board approve the final design and budget.

Performance Period	Deliverables		Cost
Cost	Operational Plan and Budget		Est. \$15,650
Member Level	Role/Rights	# Members	Charges/Dues
Principal Members	As Board Majority, Approves Operational Plan and Budget	3	\$3000.00
Associate Members	Input to Operational Plan	3	\$1500.00
Observing Members	Input to Operational Plan	3	\$ 750.00

**Phase 5.B Operational Implementation**

The operational implementation costs are detailed in the Board approved budget. Cost estimates for a nine-member alliance vary from \$180,000 per annum to \$260,000 per annum.

Performance Period	Deliverables		Cost
Cost	Operational Design		Per Board Approved Budget
Member Level	Role/Rights	# Members	Charges/Dues
Principal Members	Majority of Board, Receives All Reports	3	Per Board Approved Budget
Associate Members	Minority of Receives All Reports	3	Per Board Approved Budget
Observing Members	Receives Joint Work Structure, ConOps and Architecture Reports, Does Not receive path-to-market analyses	3	Per Board Approved Budget

**Phase 6- Transition- Alliance Members**

A budget for detailing services for expansion of the alliance scope, membership and management is prepared by StarNet and approved to by the Board. Any changes in costs are reflected in annual dues and member technical project administration charges.



## **J. STARNET PROJECT QUALIFICATIONS**

StarNet has designed and/or managed three innovation alliances that are relevant to this pre-proposal. All the alliances generated new concepts of operations (con-ops) and architectures that are today deployed in the aviation industry and its major suppliers in information systems, materials and human-to-machine interfaces. Individual technology advances in these three supplier sectors have laterally transferred into other industrial sectors, including manufacturing.

### **Airborne Internet Consortium (AIC)**

StarNet was retained to design and prepare the legal formation but not recruit members to launch the AIC. The consortium was designed as an industry led, private/public innovation alliance focused solely on networked operations using the public Internet system. The founding members developed a strategy to first seek Federal funding for con-ops and architecture development. The strategy was unsuccessful securing senior level FAA engagement, thereby reducing their capacity to recruit commercial members. The small business members (e.g. Aerosat) make up part of the current airborne Internet supply chain being deployed for passenger connectivity. None of the members are directly engaged in fulfilling the ERP needs of air fleet operators.

### **Rotorcraft Industry Technology Alliance (RITA) (Vertical Life Consortium)**

StarNet's co-founders and two affiliates co-designed an innovation alliance while contract employees of a NASA funded "think tank" in the early 1990's. The Alliance was designed as a government led, public/private technology alliance focused on creating commercial helicopter architectures by drawing on military funded designs that were too expensive for the commercial market. The founding members developed a series of "architectures" that guided conversion of military configured systems and development of new technologies to support civilian use of helicopters. The alliance converted to an industry-led consortium today known as the Vertical Lift Consortium (VLC) that secured its own development and test facilities.

### **Advanced General Aviation Transport Experiment Alliance (AGATE Alliance)**

StarNet's co-founders and one affiliate designed, launched and facilitated this alliance. (See Section A.2-New Innovation Model). The alliance was designed to launch as government led with a conversion to private sector governance within the first year. The members developed a strategy that was successfully implemented to create three architectures for new aircraft based on technology and testing advances:

- Flight Systems (Information, Communications, Navigation, Surveillance)
- Propulsion Sensors and Control
- Design and Manufacturing
- Icing Protection
- Pilot Training
- Certification Methods

## **Appendix A- Aviation Sector: Innovation Alliance Model**

The aviation industry has structural impediments that, until recently, slowed innovation and confounded the calculations for payback and return-on-investment difficult to estimate. This has changed with the evolution of a new innovation model in the mid-1990s called the “innovation alliance”.

### **Industry History: A Military and Safety First Model**

Two basic forces have shaped the innovation capacity of the aviation industry since the 1930’s. The first force is the volume of military aviation acquisition that places technical performance over cost and adaptation. The second force is the US policy of placing passenger safety over system efficiency. These two policies have shaped an aerospace sector that cannot adopt “continuous innovation” without first proving it’s optimal technical performance or safety assurance. These policies created an industry wherein private companies would evaluate innovations only if they received either DOD development funding or had long lead times for FAA “testing and certification”. When these innovation forces are combined with the de-capitalization of the US passenger airline industry, the result is an innovation dynamic that requires either DOD or FAA investment to lead the industry.

### **New Innovation Model: Innovation Alliance To Shape Future Architectures**

This “innovation congestion” resulted in an industry-wide innovation experiment in the mid 1990’s: multiple alliances of end users, integrators, suppliers, developers, investors and Federal authorities, collaborating to implement strategic plans that would collectively lift a given aviation sector’s innovation capacity in one, coordinated “leap”. The goal was to fundamentally change the business models of the air fleet operators and their suppliers.

The experiment was applied in two commercial sectors: small aircraft (general aviation) and helicopters. Large scale alliances were formed in each sector to undertake joint innovation in: 1) information systems, 2) sensors and controls, 3) integrated design and manufacturing, 4) icing systems, 5) propulsion systems, 6) human-to-machine interface and 7) rapid adoption of guidelines for standards and certification (GS&C’s). These separate technology disciplines were knitted together into three new aviation architectures linking aircraft, airports and airspace management.

### **The AGATE and RITA Alliance: New Aviation Business Architectures**

The innovation alliances for small aircraft, (the Advanced General Aviation Transport Experiment (AGATE) Alliance) and for rotorcraft (Rotorcraft Industry Technology Alliance-RITA) were structured as “fifty-fifty” partnerships between government (Federal and state) and industry that created new vehicle architectures. The alliances spent \$200+ million dollars over an eight-year period in technical teams that generated technology advances that were certified by the Federal Aviation Administration over a three-year period. For an industry that had not had a new

“vehicle architecture” approved between 1947 and 1992, this was the equivalent of “lightening speed”.

The government benefited on a national level by promoting new industry-wide architectures. The commercial firms benefited by positioning themselves to either deliver whole architectures or aligning their investment under specific architectures that reflected their “core competency”. Small business participation increased when small business investment groups, angel capitalists and selected venture capitalists could track their startup investment to a particular architecture targeted at an emerging market.

### **NextGen and the Need for Networked Operations**

The aviation innovation alliance models was adopted by the Federal Aviation Administration (FAA) as the structure for a public/private partnership to design a new American air space transportation approach, based on a “networked operations” concept. This approach, known as the Next Generation Air Transportation System (NextGen)<sup>5</sup> has been shaped into a plan that guides investment in twenty-two (22) operational-implementation categories. The investment must start with the FAA as air space operator. However, the FAA investments to date are focused solely on their internal need to control air space and not to provide operational efficiency for the airlines nor to define the sub-architectures necessary to support aviation industry ERP’s. This creates a need for a networked architecture to support airlines and air cargo firms. The savings potential for the airlines is huge: their industry association, IATA, has calculated that a 3% collective savings in trip efficiency will generate enough fuel savings to return all airlines to profitability last seen in the 1980’s.

There are currently a dozen small or startup companies pursuing the aviation industry ERP. However, as of early April 2013, there is no overt (or covert) industry report of a teaming between Boeing (or Airbus), any airline, the avionics firms and the ERP developers. There is an effort underway at Boeing that will be announced in late 2013 and another startup about to announce a “development partnership” in the early third quarter of 2013.

### **StarNet’s Role: Design, Launch, Facilitate and Extend**

StarNet’s principals designed the small aircraft and helicopter alliances, and directly managed the small aircraft alliance from inception (1993) to final technical and intellectual property outputs (2001). Many of StarNet’s point-of-contacts for these alliances have risen to senior management positions at Boeing, the major airlines and the avionics firms.

StarNet’s believes that an innovation model that can create and deploy new business architectures in a sector with as many impediments as aviation has the potential to be used in other sectors such as manufacturing.

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<sup>5</sup> <http://www.faa.gov/nextgen/>

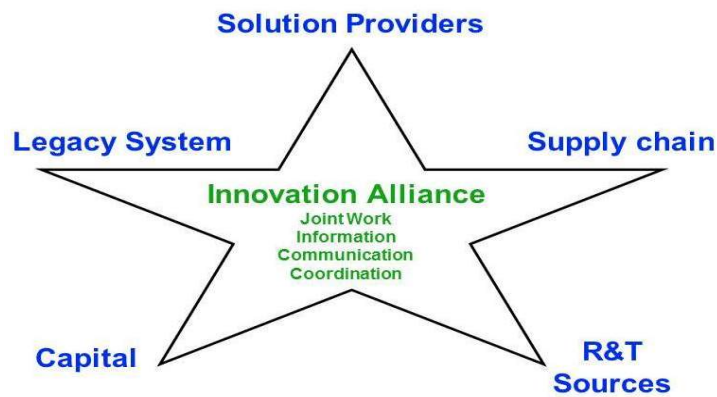
### **Innovation Alliance Model: Difference from Strategic Alliances & Consortia**

The innovation alliance model is a hybrid industry consortium and private/public partnership with two additional elements: first, the participation of government organizations for the purpose of influencing national architectures (i.e. legacy systems) and second, the invocation of a legal model that maximizes R&D tax credits, government funding, provides anti-trust protection and attracts investment for small firms (AC, VC, PE, minority investment and acquisition).

### **The Concept: Coordinated Innovation Ecosystem**

The model's concept is to coordinate the elements necessary for large-scale innovation. The elements of innovation range from end users to integrators and research & development organizations, but also include sources of capital and representatives of groups that influence "legacy system" practices. The concept of legacy encompasses the existing relationship between industry architectures, business architectures and their embedded technologies. StarNet engages "government" organizations at the Federal and state level as a "surrogate" for the power of a legacy system. Our concept is to combine the research and development capacity of civilian government laboratories, the financial backing of the defense and homeland security organizations, and the "policy making" groups that guide regulation as the collective legacy system influencers. The figure below represents the simplified model of the collective "innovation ecosystem".

**Figure 1**  
**Innovation Ecosystem**



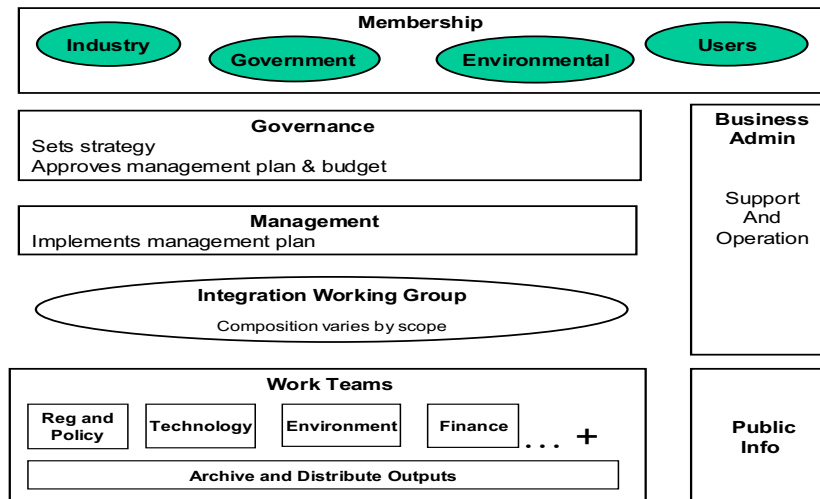
Strategic Alliances Resources Network, LLC © 2002-2011

## The Organizational Model

An innovation alliance is organized like a temporary consortium, but with broader membership categories. The membership rights and obligations create a governing board with majority control by private sector organizations, and minority representation from government and research organizations

The functions include a governing board, management team and working technical teams. A fourth function operates between the management team and technical team: a systems integration and assurance team. This team is created from representatives elected from among the individual technical team and has responsibility to create one or multiple “architectures” that achieve the strategic plan goal and integrate the individual technologies from the work teams. The alliance is supported and facilitated by an independent “alliance manager” providing an array of services and experts on topical areas such as intellectual property. The alliance manager is paid from the collective membership and management fees. A simplified organizational model is shown in Figure 2 from a life sciences/environmental alliance.

**Figure 2**  
**Innovation Alliance Organizational Model**



## The Process Model

The alliance is organized through a step-by-step process starting with a founding group that recruits other members to jointly develop a vision, mission and strategy. The alliance leadership is then facilitated through a scenario planning process that results in a technology “roadmap” with branches creation of alternative architectures. The strategy is translated into annual technology development plans, using a top down and bottom up process. The architectures act as the “top down” guidelines within which bottom up proposals are submitted. The systems integration

team reviews the collective technical reports, and recommends modifications to the architectures to achieve the alliance's strategic goals.

### The Legal Model

The alliance is organized as a special purpose, non-stock corporation that adopts the 501-c-3-tax status. The alliance charter, bylaws and membership include provisions for public sector participation, primarily through funding, facilities loans and policy dialogue. This public participation permits the alliance to invoke Federal technology transfer objectives, including job formation, as the overarching policy under which it will seek resources and collaboration.

The alliance solicits Federal funding under the condition it be provided through "other transactions authority" (OTA) as invoked to implement Federal technology transfer policy. The invocation of Federal technology transfer policy permits the alliance to reference Federal statutes that exempt all technical paper outputs from FOIA for a maximum five year period after the alliance has finalized any given technical paper, patent, copyright or data right. The OTA and Federal technology transfer references also permit the alliance to negotiate Federal waiver of title, co-title and commercial use claims on all IP that is developed.

The alliance will file a notice with the Department of Justice (DOJ) to invoke the anti-trust protections relevant Federal collaborative R&D legislation. Under this exemption, the alliance can create one-time, special teams that are permitted to pool market and even cost information as long as no "pricing points" are exchanged among participants.

### The Outputs

The alliance outputs are a hierarchy of technical investment roadmaps leading down to specific architectures. Work teams generate specific technology guidelines for common certification of products to support a given architecture. Any jointly developed intellectual property is co-titled to members that funded the specific technical output. The Federal government waives its right to title and commercial use delegation.

Output	Description
<b>Technology Investment Roadmaps</b>	<i>A strategic plan for <u>common</u> industry and government investments in aviation networked operations</i>
<b>Con-ops and Architecture Reports</b>	<i>The reports of a multi-disciplinary team on con-ops for aviation networked operations along with architectures that drive common product line paths</i>
<b>Technical Reports</b>	<i>Technical reports from project work teams.</i>
<b>Recommended Standards and Guidelines</b>	<i>Recommendations for standards and guidelines for items such as technology, operating systems, maintenance, personnel training, security, and safety</i>
<b>Joint Intellectual Property</b>	<i>Jointly developed copyrights and patents</i>



## **Appendix B- StarNet General Qualifications**

Strategic Alliances Resources Network, LLC (StarNet, LLC) is a network of specialists that perform management consulting and operations for clients in industry and government. StarNet focuses on assisting clients in the formation and operation of high-performance technology development partnerships, with an emphasis on public/private partnerships. StarNet, LLC's network is based in the Bay Area of Northern California.

StarNet was formed in 1996 to focus on improving the success rate of new and existing technology partnerships. The need for such a focus is based on research from three fields:

- Technology based Innovation- Research confirms organizations (commercial, governmental, academic) must increase and make "continuous" innovation capabilities
- Collaborative innovation- Research confirms that partnering is the most effective means of reducing costs and risks for innovation
- Alliances- Research confirms that half or more of all alliances fail to achieve their objectives due to basic flaws in design and execution.

The Network was formed by the merger of independent consulting practices of Paul A. Masson and Keith Gale, who had worked together at the American Technology Initiative, Inc. (AmTech) technology transfer research organization from 1989 through 1992. During their tenure at AmTech, Messrs. Masson and Gale undertook extensive in the fields of innovation, technology transfer, collaboration (alliances, partnerships, consortia) and public/private collaboration.

### **Expertise Network**

StarNet is organized as a formal expertise network, with two coordinators and retainer agreements with five specialists. The network is composed of individuals each with 20+ years experience in:

- Innovation alliance & partnership formation and operation
- Technology transfer and commercialization
- Intellectual property management and valuation
- Federal government contracting
- Partnership business administration and operations
- Organization design and group facilitation

### **Services-Technology Partnerships**

For clients seeking to form and operate technology development partnerships, StarNet engages in six steps to assist the client:

- Needs Assessment
- Alliance Planning
- Partner Identification and Recruitment
- Structuring Alliance Programs/Projects
- Negotiating Alliance Agreement
- Operating Alliance
- Transitioning Alliance

### **Services- Research and Technology Commercialization**

For clients seeking to maximize technology development and commercialization without full partnering StarNet provides the following assistance

- Research and Technology Assessment
- Market Assessment
- Technology Commercialization Options
- Technology Commercialization Planning
- Commercialization Plan Execution

### **Industry and Technology Expertise**

StarNet has accumulated specialized expertise in the following industries and fields of technology:

- General Aviation Aircraft- avionics, navigation, materials, icing systems and manufacturing
- Commercial Aircraft- design and materials
- Composite materials
- Health Care- sensors and measurement
- Robotics
- Software- collaborative development, security systems
- Computing- high performance, security systems
- Energy- solar



## **Sample Projects- Innovation Alliances**

### General Aviation Innovation Alliance for NASA and GA Industry (AGATE)

The business administration and group process design and implementation of an innovation alliance including NASA, the FAA 35+ commercial general aviation firms and another 60 (ninety) supplier organizations. The alliance was designed in 1993 and 1994 and operated from 1995 through 2001. StarNet was the advisor or leader for all six phases of alliance design, implementation and shutdown. The alliance included separate smaller partnerships focused on:

- Flight Systems
- Propulsion Sensors and Control
- Design and Manufacturing
- Icing Protection
- Pilot Training
- Certification Methods (FAA AIR AGATE Team)

### General Aviation Technology Commercialization Database & Tracking- NASA

The tracking of technology commercialization patterns in six fields of General Aviation investment by the Federal Government: avionics, propulsion systems, integrated design and manufacturing, icing protection systems, and advanced pilot training.

### GA Industry Consortium (AGATE Alliance Association)

The design and launch of the AGATE Alliance Association, Inc. (AAAI) as a private sector technology alliance manager working on behalf of GA industry members.

### General Aviation Innovation Alliance for Air Traffic Systems-NASA (SATS)

The assessment and planning support for NASA solicitation of a public/private partnership to collaborate with academic and industry teams in testing advanced small aircraft transportation systems (SATS) concepts.

### Commercial Aircraft Design-Sensors Development- Univ. Washington, NASA & Boeing

The design and implementation of a basic and applied research commercialization partnership for development of “pressure sensitive paints” capable of generating pressure maps on aircraft models undergoing wind-tunnel tests.

Rotorcraft and General Aviation Aircraft- Composite Materials Exchange- RITA and AGATE

The design and drafting of a collaboration agreement to share composite materials research between two existing alliance: the Rotorcraft Industry Technology Alliance (RITA) and the AGATE Alliance.

Robotics Alliance- Carnegie Mellon (CMU), NASA and Equipment Companies

Redesign of a partnership structure and legal agreement between CMU, NASA and five transportation and earth moving equipment companies for development of advanced robotic sensors and response systems capable of deployment in a wide range of equipment.

High Performance Computing- Dept. of Defense

Consulting to support the assessment and planning for creation of multiple public/private high performance computing alliance to advance the software environment for designers and developers.

Commercial Aircraft-Airworthiness Partnerships- Iowa State, FAA and Five Universities

Training and design for participants in an existing FAA Center of Excellence to convert a passive technology transfer system into one based on partnerships with commercialization commitments.

Software Alliance Formation Research and Strategy- Hewlett Packard/Compaq

Research and strategy development on the shift away from standards setting bodies toward partnerships and alliance for the purpose of successful adoption of a given technology as a “standard” within the information systems industry.

## **Sample Projects- Research and Technology Commercialization**

### University/Government/Industry Technology Transfer - JSR Program NASA

Research into the legal, financial and operational alternatives to create improved technology transfer for Government funded research at Universities. The research resulted in development of the NASA Joint Sponsored Research Program (JSRP), which promoted the formation of NASA and industry joint sponsorship of research based at universities.

### Technology Commercialization Financing- Tech Transfer (TT) Society (Cost Basis)

Design and execution of workshop(s) for TT professionals on private sector financing available for technology commercialization. The financing sources were linked to technologies emanating from Universities and Government laboratories.

### Technology Transfer Strategy for Tech Parks- ICF Consulting/IDEA, LLC

Design of technology transfer models and strategies for creation of technology parks within military bases undergoing conversion to civilian use.

### Tech Transfer Failure Analysis- Stuart & Kauffman Foundation w/Univ. N.

#### Colorado

Analysis and identification of project design flaws for development and commercial deployment of health care system support software

### Center for Commercial Development of Space (CCDS)- NASA

Consulting to assist in the design and operation of selected NASA Center for the Commercial Development of Space. Board member of several startup companies incubated from CCDS based projects.

## Appendix C- StarNet Professional Biographies

### **Paul A. Masson** **StarNet, LLC** **Managing Director**



Paul A. Masson, MBA has 35 years experience in financial syndications, startup companies, technology partnerships, and multi-party innovation alliances. As Managing Director, Paul coordinates the *StarNet, LLC* team projects and provides personal guidance in the areas of technology financing, multi-party alliance design, alliance facilitation (creation and troubleshooting) and private/public partnerships.

Paul formed *StarNet, LLC* in the mid-1990's with an eye toward using the syndication methods of large financial institutions to organize multi-party innovation alliances that combines startup companies, research laboratories and large government organizations. This form of multi-party, innovation alliance is the most difficult to build, but also yields substantial innovation performance. As a consultant for SRI International, Paul first proposed this method to NASA. In turn, they began to fund the legal research into the method leading to formation of the NASA Joint Sponsored Research Program (JSR) in 1982. This program was led by a former colleague of Paul's at SRI.

Prior to forming *StarNet, LLC* Paul was Vice President/Director of Technology Commercialization at American Technology Alliances (AmTech), a non-profit funded by NASA to implement the Joint Sponsored Research Program. Prior to joining AmTech, Paul was project manager at three Northern California startup companies where he received and sold founding staff stock or stock options, and a senior consultant at both SRI International (formerly Stanford Research Institute) and CapGemini (MAC Group).

Paul has been an advisor to the White House on the public/private models for cybersecurity, multiple Federal and state R&D funding organizations, the lead instructor for NASA's innovation alliance training programs from 1998 through 2006, a lecturer at Stanford and multiple State of California universities, and a frequent speaker at Silicon Valley organizations regarding private/public innovation alliances.

Paul holds a BS Economics (Honors) and an MBA in Finance (Honors) from the Wharton School, University of Pennsylvania.

**Keith Gale**                      **Gale Consulting**  
**Technology Commercialization Specialist**



Keith R. Gale, BSE, MBA is a technology commercialization and engineering project management consultant with over 20 years of technology commercialization experience with an ability to identify the commercial feasibility of complex technology systems and their precedent developments. As a member of the *StarNet, LLC* team, Keith assists clients in technology due diligence, project team organization, engineering analysis and technology commercialization tracking. He specializes in developing and tracking the performance metrics necessary to assist the commercial feasibility of emerging technologies.

Mr. Gale operates as an external consultant in the fields of advance product development and federal technology policy development to corporations, technical teams, research organizations and public-benefit organizations. His experience spans multiple industries including information systems, aviation transportation, energy generation, robotics, commercial space, materials, and communications. His information systems consultations include work with DARPA in the field of high performance computing and IDG in the field of emerging information systems demand.

Prior to his external consultant role, Keith was Manager of Information Systems projects at American Technology Alliances (AmTech) and Manager of both nuclear and aerospace projects for Westinghouse and WesSpace. Mr. Gale was team leader and member of several Westinghouse technology development alliances with both commercial and Federal government organizations.

Keith holds an MBA (honors) from University of San Francisco in International Business and Marketing and an BS in Mechanical Engineering from Northwestern University specializing in Power Generation. Mr. Gale has completed advanced degree work in Electrical Engineering at Carnegie Mellon University (CMU).

**Sue Lebeck****StarNet,****LLC****Information Systems Specialist, Network Coordinator**

Sue Lebeck, MS, MA is a senior affiliate at StarNet LLC, where she focuses on professional network development, virtualized service delivery, innovation/collaboration research, and general operations. Through her own firm, Silicon Valley Innovation Associates, she created and directs the InnovatingSMART.org public service initiative which seeks to inspire future innovators by telling first-person stories of sustainability-driven innovation.

Sue co-designed and led a collaborative effort to articulate the needs of innovative entrepreneurs (Silicon Valley Letters to Washington). She served several years as the executive program director of the Silicon Valley Innovation Society, a non-profit community dedicated to innovation advocacy. Previously, she practiced as a creativity teacher (Institute of Transpersonal Psychology) and consultant (Working-Arts).

In an earlier career, Sue contributed first-hand to the commercialization of the Internet – bringing the Internet and electronic messaging to the business community and then challenging, integrating and evolving its definition and performance to better serve commercial applications. Her innovation roles were many – six years as applied technology researcher and industry contributor (University of Wisconsin-Madison); and seven years as corporate development manager, program manager, liaison to the program sales team, product strategist and industry leader (Tandem Computers). Sue served the electronic messaging industry through a variety of industry trade groups and consortia, (ISO/OSI, NIST, X/APIA/CMC, IFIP, EMA/The Open Group, and IETF) helping to advance email to the ubiquitous innovation-supporting infrastructure it is today.

Sue holds Masters Degrees in Computer Science (University of Wisconsin-Madison) and Clinical and Transpersonal Psychology (Institute of Transpersonal Psychology, Palo Alto).

**Dr. Barry B. Grossman** **HSOD, Inc.**  
**Organizational Development (OD) Specialist**



Barry B. Grossman, Ph.D., MBA is an organization consultant with over 26 years of experience, combining business expertise with an ability to engage managers and executives in reaching breakthrough solutions to complex questions. As a member of the *StarNet, LLC* network team, Barry advises *StarNet, LLC* project clients on a variety of organizational and group teaming issues that achieve maximum collaboration. He specializes in helping groups and individuals overcome barriers to resolving difficult problems that are in urgent need of action.

Dr. Grossman's primary practice is through Human Systems Organization Development (HSOD, Inc.) and spans multiple industries including financial management, retail and healthcare on topics of business strategy development, team effectiveness and executive coaching. His healthcare consultations include work with physician practice, national representation, clinical quality and new technologies.

Prior to his external consultant role, Barry was Manager of Human Resource Development for Syntex International where he was responsible for programs on executive development, translating corporate culture into operational terms and training Human Resource Generalists to become more effective internal consultants.

Dr. Grossman is currently an Adjunct Faculty member at the University of California, Berkeley, where he teaches several courses in the behavioral science/organization development track in the School of Business. He is also Senior Lecturer at Alliant International University training organization psychologists in consultation skills.

Barry is an invited speaker at national conferences on topics ranging from professional development for consultants to wellness and business strategy.

Barry holds BA and MA degrees in English literature, a PHD in Developmental Psychology and an MBA in the Management of IT Organizations.



**William M. Lennett**                      **GCA Consulting**  
**Accounting and Government Contracts Specialist**



William (Bill) Lennett, MBA, CPA is financial management and government contract consultant with over 25 years experience combining commercial sector expertise, and government contract knowledge to assist clients in successfully navigating the complex field of government sales. As a member of the *StarNet LLC* team, Bill designs and implements financial management compliance systems for the government funding element of innovation alliances. He specializes in the complex area of translating between GAAP and CAS accounting necessary to support public/private innovation collaboration.

Mr. Lennett's primary practice is Government Contract Associates (GCA) through which he provides advice and assistance to the management of client companies on all types of government procurement, accounting, financial and contracting matters. His area of expertise includes accounting and estimating systems, preparing proposals and claims, indirect rate submissions, Cost Accounting Standards, and Federal Acquisition Regulations. In addition, Mr. Lennett publishes the GCA Report, a widely read newsletter addressing changes to accounting and contracting regulations.

Prior to his external consultant role, Mr. Lennett served as Chief Financial Officer and Controller of ABB Government Services, Inc., Government Compliance Specialist for numerous ABB companies and Manager of Internal Audit and Government Compliance at Hexcel Corporation. Mr. Lennett also served five years with the Defense Contract Audit Agency (DCAA) as an auditor and supervisor.

Mr. Lennett has audited both large organizations (e.g. GE, IBM, Litton, Allied Signal, PRC, BDM, Westinghouse, Johns Hopkins University and Singer Kearfott) and small companies on contracts for DOD, DOE, NASA and the US Army Corps of Engineers. Bill is a Certified Public Accountant, received his Bachelors degree from the University of California, Berkeley, with honors (Magna cum laude and elected to Phi Beta Kappa) and his MBA from the Harvard Graduate School of Business.



**Josette Ferrer** **Clairent Advisors LLC**  
**IP Allocation and Valuation Specialist**



Josette Ferrer is the founder and a Managing Director of Clairent Advisors. Since 1993, Josette has been assisting clients with the valuation of closely held businesses and business interests, intangible assets, intellectual property, stock options, debt instruments, capital equipment / fixed assets, and other assets.

Josette's expertise includes: evaluation of intellectual property, including patent and technology monetization, analysis of economic contributions, the development and assessment of strategic alternatives, and patent portfolio mining; valuation analyses for financial reporting purposes; valuation consulting related to tax planning and compliance; development of financial opinions; financial advisory services related to restructuring or bankruptcy; and portfolio valuations.

Prior to founding Clairent Advisors, Josette was the U.S. Practice Leader of Marsh's Valuation Services Group (formerly Kroll's Valuation Services Practice). Her career includes serving as the Managing Director in charge of the San Francisco Valuation Services Group of WTAS, Inc. ("WTAS"), a former subsidiary of HSBC Group. At WTAS, Josette's responsibilities included developing and overseeing all technical, operational, marketing functions for the San Francisco valuation team. Prior to WTAS, Josette was a director with Huron Consulting Group and a senior manager at Arthur Andersen LLP.

Josette has been a guest speaker for a wide variety of forums, including Financial Executives International, Institute of Management Accountants, the Practicing Law Institute, the San Francisco Bar Association, BIOCOM, Santa Clara University, and various venture capital roundtables.

Josette is a member of Fair Value Forum. She holds a B.S. degree in Business Administration from the University of California-Berkeley.

## **Ralph Yost**

## **Anchor Aviation, LLC**

### **Aviation Networked Operations Specialist**

Ralph Yost founded Anchor Aviation, LLC after a thirty-three year career at multiple levels of the US government aviation organization. Ralph's experience covers aviation communications, navigation & surveillance and senior systems engineering. Ralph has also held positions and participated in developing strategic level plans that link technical capabilities/goals with the political realities that permit realistic corporate solutions. Ralph's major responsibilities and experiences include:

- Originated aviation's Airborne Internet/Networking concept.
- Led the FAA's Airborne Internet development and test lab
- Nationally recognized expert in airport security systems.
- Led teams performing electromagnetic compatibility testing; testing of surveillance, navigation, and communications systems.
- Expert in UAS-NAS integration.
- Extensive knowledge of FAA's NAS system labs.
- Former Test Director for Telecommunications for the FAA.
- Entrepreneurial experience with computer networking business for 12 years.
- Extensive Interagency government experience working across government organizational lines including:
  - Departments of Defense (Pentagon, Air Force, Army and Navy)
  - Air Force Communications Agency
  - Air Force Research Lab
  - U.S. Army Aviation and Missile Command
  - Energy (Sandia National Labs)
  - NASA (Langley and Glenn Research Center)
- Supported the establishment of the NextGen Aviation Research Technology Park (ARTP) anticipating the creation of more than 2000 professional jobs.

Ralph is an author and contributor to multiple aviation related publications. He is a frequent public speaker at industry related events.

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